

**PARUL UNIVERSITY**  
**COLLEGE OF AGRICULTURE**

**B.Sc. (Hons.) Agriculture Winter 2019 - 20 Examination**

Semester: 1

Date: 04/12/2019

Subject Code: 20101103

Time: 10:30am to 1:00pm

Subject Name: Fundamentals of Agronomy

Total Marks: 50

**Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as Directed.****A. Fill in the blanks. (Each of 0.5 marks)****(05)**

1. In the term 'Agronomy' 'Agros' means \_\_\_\_\_ and 'nomos' means \_\_\_\_\_.
2. Turning \_\_\_\_\_ into the soil green leaves and tender twigs collected from outside of the field is known as \_\_\_\_\_.
3. \_\_\_\_\_ is an example for straight fertilizer.
4. An example for natural chelating agent is \_\_\_\_\_.
5. 'One cusec' is equals to \_\_\_\_\_ litres of water.
6. The average rainfall of India is \_\_\_\_\_ mm.
7. The rate of growth of crop per unit area (CGR) is expressed in \_\_\_\_\_ (unit)
8. \_\_\_\_\_ is considered as upper limit of water availability of plants.
9. \_\_\_\_\_ is an example for complete root parasite.
10. The seeds which require light for inducing germination are called \_\_\_\_\_.

**B. Multiple choice type questions. (Each of 0.5 marks)****(10)**

1. Nitrogen is called as \_\_\_\_\_ element.
  - a) Quantity
  - b) Quality
  - c) Secondary element
  - d) Micro element
2. Tillage is referred as \_\_\_\_\_ manipulation of soil.
  - a) Physical
  - b) Chemical
  - c) Biological
  - d) All of these
3. Bulky organic manures are characterized by \_\_\_\_\_.
  - a) Supply of nutrients in small quantity
  - b) Low analytical value
  - c) No definite chemical formula
  - d) All of the above
4. The solid N fertilizer containing highest amount of nitrogen is \_\_\_\_\_.
  - a) Anhydrous ammonia
  - b) MOP
  - c) Urea
  - d) SSP
5. Soil moisture held against the gravitational force \_\_\_\_\_.
  - a) Maximum water holding capacity
  - b) Permanent wilting point
  - c) Field capacity
  - d) Ultimate wilting point
6. Integrated Nutrient Management includes \_\_\_\_\_.
  - a) Recycling of organic manures
  - b) Biological nitrogen fixation
  - c) Green manuring
  - d) All of the above
7. The energy status of water at hygroscopic coefficient is \_\_\_\_\_.
  - a) - 10000 Bar
  - b) - 1000 Bar
  - c) - 100 Bar
  - d) - 10 Bar
8. For drought resistant crops scheduling of irrigation at \_\_\_\_ % of depletion of available soil moisture is adequate.
  - a) 50 %
  - b) 75 %
  - c) 25 %
  - d) 100 %
9. The % nutrient (Nitrogen) present in anhydrous ammonia is \_\_\_\_\_.
  - a) 100 %
  - b) 46 %
  - c) 82 %
  - d) 18 %
10. The fertilizer which is/are organic in nature \_\_\_\_\_.
  - a) Urea
  - b) Calcium cyanamide
  - c) Both A and B
  - d) None of the above
11. The first organ to emerge from the soil is \_\_\_\_\_.
  - a) Plumule
  - b) Radicle
  - c) Hypocotyl
  - d) Mesocotyl

12. 'Cyprus rotundas' is an example for \_\_\_\_\_ weed.
- a) Grassy  
b) Broad leaved  
c) Sedge  
d) Parasitic weed
13. The boron content in normal water should be \_\_\_\_\_
- a) < 3 ppm  
b) 5-10 ppm  
c) 4-5 ppm  
d) > 10 ppm
14. The growth analysis parameter which is similar to compound interest \_\_\_\_\_
- a) Leaf Area Index (LAI)  
b) Absolute Growth Rate (AGR)  
c) Crop Growth Rate (CGR)  
d) Relative Growth Rate (PGR)
15. Complete removal of all live plant parts and seeds of weed from an area is known as \_\_\_\_\_
- a) Prevention  
b) Weed control  
c) Eradication  
d) Weed management
16. Continuous application of same herbicide will leads succession/ cause for \_\_\_\_\_
- a) Agricultural ecotypes  
b) Chemo types  
c) Weed shift  
d) All of the above
17. Which growth phase is considered as 'grand growth period'
- a) Lag phase  
b) Decreasing growth rate  
c) Log phase  
d) Senescence
18. The unit to express the water use efficiency (WUE) \_\_\_\_\_
- a) kg/ha mm<sup>-1</sup>  
b) kg ha/mm  
c) kg/ha  
d) None of the above
19. The soil moisture held by oven dry soil at 98 % relative humidity \_\_\_\_\_
- a) Maximum water holding capacity  
b) Field capacity  
c) Permanent wilting point  
d) Hygroscopic coefficient
20. One or two flushes of weeds are destroyed by irrigating field is known as \_\_\_\_\_
- a) Soil solarization  
b) Flooding  
c) Stale seedbed  
d) Pre sowing irrigation

**Q.2 Do as Directed.**

**A. Define the following. (Any five)**

**(05)**

1. Agriculture
2. Tillage
3. Exotic crops
4. Fertilizer ratio
5. Nutrient Efficiency ratio (NER)
6. Growth and Development
7. Soil solarization

**B. Answer the following. (Any Five)**

**(05)**

1. Who has given the term 'Allelopathy'
2. Define intercropping
3. Why MOP/KCl is not suitable for crops like sugarcane and tobacco??
4. What is irrigation frequency
5. What is Stale seedbed
6. Field capacity
7. Mention the 3 principles of weed management

**Q.3 Write short notes. (Any five)**

**(10)**

1. 'Criteria of essentiality'
2. Classification of nitrogenous fertilizers with their examples.
3. Water Use Efficiency and its type
4. Water requirement and consumptive use of water
5. Sigmoid growth curve
6. Physical/mechanical weed control

**Q.4 Attempt any Three/Long Questions/Example**

**(15)**

1. What are the important roles and deficiency symptoms of N, P and K in plant metabolism?
2. Explain the different soil moisture constants with their energy status.
3. What is 'Weed management'? Mention the 3 principles of weed management and explain the physical / mechanical method of weed control.
4. Explain the 'Growth and Development' analysis parameters